

## STIC Database Tracking Number:

To: **CHRYSTINA ZELASKIEWICZ**  
Location: **KNX5A64**  
Art Unit: **3600**  
Date: **November 12, 2009**  
Case Serial Number:

From: *Sylvia Keys*  
Location: **EIC3600**  
**KNX 4B59**  
Phone: **(571) 272-3534**  
**sylvia.keys@uspto.gov**

## Search Notes

Dear Examiner **ZELASKIEWICZ:**

Please find attached the results of your search for the above-referenced case. The search was conducted in Dialog, the Internet and EBSCO HOST.

I have listed *potential* references of interest in the first part of the search results. However, please be sure to scan through the entire report. There may be additional references that you might find useful.

If you have any questions about the search, or need a refocus, please do not hesitate to contact me.

Thank you for using the EIC, and we look forward to your next search!

<b>I. POTENTIAL REFERENCES OF INTEREST .....</b>	<b>3</b>
<b>A. Dialog .....</b>	<b>3</b>
<b>II. INVENTOR SEARCH RESULTS FROM DI A LOG.....</b>	<b>4</b>
<b>III. PATENT FILES FROM DI A LOG .....</b>	<b>14</b>
<b>A. All Databases .....</b>	<b>14</b>
<b>IV. TEXT SEARCH RESULTS FROM DI A LOG .....</b>	<b>38</b>
<b>A. Abstract Databases .....</b>	<b>38</b>
<b>V. TEXT SEARCH RESULTS FROM DI A LOG .....</b>	<b>39</b>
<b>A. Full Text Databases.....</b>	<b>39</b>
<b>VI. ADDITIONAL RESOURCES SEARCHED .....</b>	<b>42</b>

## **I. Potential References of Interest**

### **A. Dialog**

**0 results**

## II. Inventor Search Results from Dialog

20/3,K/1 (Item 1 from file: 349)  
DIALOG(R)File 349: PCT FULLTEXT  
(c) 2009 WIPO/Thomson. All rights reserved.

01025666 \*\*Image available\*\*

A SYSTEM AND METHOD FOR PREVENTING UNAUTHORIZED USE OF PROTECTED  
**SOFTWARE** UTILIZING A PORTABLE SECURITY DEVICE  
SYSTEME ET PROCEDE METTANT EN OEUVRE UN DISPOSITIF DE SECURITE PORTATIF  
POUR EMPECHER L'UTILISATION NON AUTORISEE D'UN LOGICIEL PROTEGE

Patent Applicant/Assignee:

PACE ANTI-PIRACY INC, 1363 Meridian Avenue, San Jose, CA 95125, US, US  
(Residence), US (Nationality)

Inventor(s):

FONTANA Joseph M, 966 El Rio Drive, San Jose, CA 95125, US,  
**CRONCE Paul A**, 1475 Weaver Drive,  
San Jose, CA 95125, US,

Legal Representative:

SULLIVAN Stephen G (agent), Sawyer Law Group LLP, P.O. Box 51418, Palo  
Alto, CA 94303, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200354662 A2-A3 20030703 (WO 0354662)

Application: WO 2002US40185 20021217 (PCT/WO US02040185)

Priority Application: US 200128581 20011220

Designated States:

(Protection type is "patent" unless otherwise stated - for applications  
prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ  
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR  
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG  
SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW

(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SI SK  
TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 9183

A SYSTEM AND METHOD FOR PREVENTING UNAUTHORIZED USE OF PROTECTED  
**SOFTWARE** UTILIZING A PORTABLE SECURITY DEVICE

Inventor(s):

... **CRONCE Paul A**

Patent Applicant/Inventor:

Fulltext Availability:

Detailed Description  
Claims

English Abstract

A method and system for protecting **software** from unauthorized use on a computer system using an external security device (130) is disclosed. The method and system include encrypting the **software** to be protected using an encryption key. The use of the **software** on the computer system is then authorized by generating the encryption key within the security device (130) using information supplied from the software. Once the encryption key generated by the security device (130) is received on the computer system, the encryption key used to decrypt the encrypt **software** for execution on the computer system.

Detailed Description

A SYSTEM AND METHOD FOR PREVENTING UNAUTHORIZED USE OF PROTECTED **SOFTWARE** UTILIZING A PORTABLE SECURITY DEVICE

FIELD OF THE INVENTION

The present invention relates generally to the prevention of **software** piracy and more particularly to preventing unauthorized use of protected **software** by utilizing a portable personal security device.

BACKGROUND OF THE INVENTION

The problem of **software** piracy is well known in the computer industry. This problem results in substantial losses for **software** developers. Many methods have been used to try to prevent unauthorized use of **software** over the years, with limited success. Typically, the effort put out to break protection schemes is proportional to the value of the protected **software**. Thus, if a **software** program has high demand, such as a computer game, or has a high cost per unit, such as a professional tool sold to a small market, it is likely to be attacked by **software** hackers for the purpose of creating an unprotected version of the product. This unprotected version is then made available to others at low cost or recording industry and computer games industry, that some companies are unable to guarantee' the profitability of developing new **software**.

Some of the methods of protecting **software** has included an external hardware device, which is plugged into the computer. This device is interrogated by the protected **software** for the purpose of authorizing the use of the **software**.

Unfortunately, it is all too easy to analyze the **software** and provide a **software** bypass around the code which requests the authorization. More complex schemes have been used to obscure the authorization process and

protection scheme in an attempt...In the music industry, co-processor cards are used, along with the host processor, to provide complex effects and sound processing via plug-in coprocessor **software** modules. Such co-processor cards can also be used for other purposes. Because the co-processor instruction sets are difficult and very complex, the potential market is small. The result is that the cost of co-processor **software** plug-in modules is high. Unfortunately, the high cost of the modules has resulted in a high percentage of unauthorized copies of the plug-in...on an attached coprocessor. The present invention addresses such a need.

#### SUMMARY OF THE INVENTION

The present invention provides a method and system for protecting **software** from unauthorized use on a computer system utilizing a security device. The method and system include encrypting the **software** to be protected using an encryption key. The use of the **software** on the computer system is then authorized by generating the encryption key within the security device using information supplied from the **software**. Once the encryption key generated by the security device is received on the computer system, the encryption key used to decrypt the encrypted **software** for execution on the computer system..,

In a further aspect of the present invention, the identity of the encryption key is further maintained by first...

...the scrambled encrypted security key is encrypted with a second encryption key that is generated by the security device from the information received from the **software**. When the encrypted scrambled encryption key is received on the computer system, the second encryption key provided with the **software** must be used to decrypt the encryption key before the encryption key can be descrambled and used to decrypt the **software**.

According to the method and system disclosed herein, the protected **software** only contains part of the information needed for decryption, and must

3

receive the remaining information from the security device before the **software** can be used. Similarly, the security device cannot generate the encryption key without receiving information from the **software**. In the embodiment where the encryption key is randomized with information received from the **software** prior to being encrypted and sent to the computer system, the method ...a computer system and external security device with a co-processor plug-in board.

FIG. 3 is a flow chart illustrating the process of protecting **software** from unauthorized use on a computer system in a preferred embodiment of the present invention.

FIG. 4 is a flow chart illustrating the process of preparing a **software** package for use in accordance with the ... preferred embodiment of a keyset and the process of generating the keyset.

20/3,K/2 (Item 2 from file: 349)  
DIALOG(R)File 349: PCT FULLTEXT  
(c) 2009 WIPO/Thomson. All rights reserved.

00809296 \*\*Image available\*\*

PORTABLE AUTHORIZATION DEVICE FOR AUTHORIZING USE OF PROTECTED INFORMATION  
AND ASSOCIATED METHOD

PROCEDE ET DISPOSITIF D'AUTORISATION PORTATIF PERMETTANT D'AUTORISER  
L'UTILISATION D'INFORMATIONS PROTEGEES

Patent Applicant/Assignee:

PACE ANTI-PIRACY INC, 1363 Meridian Avenue, San Jose, CA 95125, US, US  
(Residence), US (Nationality), (For all designated states except: US)

Patent Applicant/Inventor:

**CRONCE Paul** Allen, 1475 Weaver  
Drive, San Jose, CA 95125, US, US (Residence), US (Nationality),  
(Designated only for: US)

FONTANA Joseph M, 966 El Rio Drive, San Jose, CA 95125, US, US  
(Residence), US (Nationality), (Designated only for: US)

Legal Representative:

HAN Franklin Y (et al) (agent), Morrison & Foerster LLP, 755 Page  
Mill Road, Palo Alto, CA 94304-1018, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200142888 A1 20010614 (WO 0142888)

Application: WO 2000US12906 20000510 (PCT/WO US0012906)

Priority Application: US 99169506 19991207; US 2000503778 20000214

Parent Application/Grant:

Related by Continuation to: US 2000503778 20000214 (CIP)

Designated States:

(Protection type is "patent" unless otherwise stated - for applications  
prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES  
FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU  
LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA  
UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 15293

Patent Applicant/Inventor:

**CRONCE Paul** Allen...

Legal Representative:

Fulltext Availability:

Detailed Description

Claims

Detailed Description

... beginning of each regular issue of the PCT Gazette.

PORTABLE AUTHORIZATION DEVICE  
FOR AUTHORIZING USE OF PROTECTED INFORMATION  
AND ASSOCIATED METHOD  
CROSS-REFERENCE TO RELATED **APPLICATIONS**

This **application** claims priority to provisional **Application** No. 60/169,506, filed December 7, 1999 and to utility **Application** No. 09/50' ),778, filed February 14, 2000.

1 0 BACKGROUND OF THE INVENTION

I . Field of the Invention

This invention relates generally to techniques...

...authorization device (commonly known as a "dongle") for authorizing a host system to use protected information.

1 5

2. Description of the Related Art

A **software** "wrapper" is a conu-nonly used technique for selectively authorizing the use of protected information associated with a host system such as a personal computer or a server. The protected information, for example, may comprise a **software program** to be executed, or data to be processed, by the host system. The **software** wrapper permits an end-user to access or execute the protected **program** or data only if a predetermined condition is met. The predetermined condition can be, for example, the running of a trial period that allows the end-user to evaluate the protected **program** or data or the presentation of the proper authorization information by the end-user. The authorization information, for example, may be a password manually entered by the end-user or digitally encoded data. A discussion of **software** wrappers can be found, for example, in The Seybold Report on Internet Publishing, Dec. 1997, no. 4, vol. 2, p. 3.

There are several techniques...

...Dongles are small, readily transportable electronic devices as described, for example, in U.S. Patent No. 4,562,306. Dongles are typically provided by the **software** vendor together with the wrapped **software program** they are intended to authorize.

To enable the **software program** to run on a particular computer, the end-user simply connects the dongle to a communications port of the computer, such as a parallel port or Universal Serial Bus (USB) port. Therefore, the end-user can authorize a number of different computers to run the **program** simply by connecting the dongle to whichever computer that he or she desires to run the **program** on at any given time.

However, a disadvantage presented by dongles is that they typically store authorization information for only one **software program** or perhaps for a group of



**software I O programs** from a single vendor. Consequently, because an end-user typically might use several **software programs** from multiple vendors at any given time, he or she might have to carry around multiple dongles, which could be cumbersome and inconvenient.

Another disadvantage is that the authorization information stored in the dongle is typically set by the **software** vendor during manufacture and generally cannot be subsequently updated. As a result, when a **software** vendor provides an end-user with a **software** upgrade, add-on or plug-in, etc. for a protected **software program**, the vendor often also delivers a new dongle to authorize the associated **software**. This is not very costeffective for **software** vendors because the cost of the dongle itself can be significant in relation to the value of the associated **software**.

In a second technique known in the art, the authorization information is stored on a magnetic floppy disk known as a "key diskette." The key...

...a type of information authority, which is a secure and trusted device for transmitting and receiving information. The key diskette is typically provided by the **software** vendor with the wrapped **software program**. To authorize the **software program** to run on a particular computer, the end-user inserts the key diskette in the computer to transfer the authorization information, typically a secret key, from the key diskette to the hard disk drive of the computer. Before the computer begins execution of the **program**, the **software** wrapper verifies that the correct key is present on the hard disk drive, and if so, allows the computer to execute the **program**. This technique is used in the Pace Anti-Piracy InterLok product, which was developed by the applicant of the present invention.

An advantage of this technique over dongles is that authorization information for many different **software programs** from multiple vendors can be stored on the hard disk drive of the computer. Consequently, an end-user who runs multiple **programs** on a

2

computer does not need to keep **multiple key** diskettes on hand to authorize each of the **programs**.

This technique suffers from several shortcomings, however. First, the authorization information is not readily transferable between computers. Typically, the key diskette is permitted to transfer...

...because it is stored on that computer's internal hard disk drive. Consequently, if the enduser wants to authorize a new computer to run a **software program** but the key diskette has run out of authorizations, the authorization information

must be removed from one of the computers containing the authorization information and...to enable functions on multiple computers.

An advantage of the security device described in the '891 patent is that it is relatively inexpensive for a **software** vendor to provide authorization information for **software** updates, add-ons, plug-ins, etc. because the authorization information is delivered using smart cards rather than dongles. Smart cards are significantly less expensive than...

...increases the complexity and cost of the security device because it necessitates that the device implement memory management or protection mechanisms in hardware and/or **software**. Second, the security device apparently is not capable of receiving authorization information from multiple types of information authorities. The '891 patent mentions that the security...

...such as floppy disks or computer servers. Consequently, it appears that the use of the security device as an authorization device is limited to those **software** vendors that support smart cards as a data delivery mechanism.

In view of the shortcomings of the above-described techniques, it is an object of...is presented to enable any person skilled in the art to make and use the invention, and is provided in the context of a particular **application** and its requirements. Various modifications to the preferred embodiment will be readily apparent to those skilled in the art, and the generic principles defined herein may be applied to other embodiments and **applications** without departing from the spirit and scope of the invention. Moreover, in the following description, numerous details are set forth for purpose of...

...illustrates an authorization system 100 in accordance with a presently preferred embodiment of the invention. The authorization system 100 comprises one or more access control **programs** II 7 associated with a host system 110, a portable authorization device 140, and one or more information authorities 160, 180 and 185...

...use a plurality of items of protected information II 5 associated with the host system, as described in detail below.

Each of the access control **programs** II 7, which may also be referred to as a **software** wrapper," is used to control access to one of the respective items of protected information I 15. The access control **program** I 17 authorizes the host system I 10 to use the associated item of protected information I 15 only if the end-user provides the correct authorization information to the access control **program**. The access control **programs** II 7, in conjunction with the host system I 10, are also used to control communications between the indirect information authorities 180 and 185 and the host system I 10. Each item of protected information I 15 and respective access control

20/3,K/3 (Item 1 from file: 350)  
DIALOG(R)File 350: Derwent WPIX  
(c) 2009 Thomson Reuters. All rights reserved.

0013615529 - Drawing available  
WPI ACC NO: 2003-710864/200367  
XRPX Acc No: N2003-568440

**Software** license information delivery method, involves  
validating signed license using publisher public key and using terms to  
control use of **software** product

Patent Assignee: CRONCE P A (CRON-I)

Inventor: **CRONCE P A**

Patent Family (1 patents, 1 countries)

Patent Application

Number	Kind	Date	Number	Kind	Date	Update
US 20030149670	A1	20030807	US 200272597	A	20020205	200367 B

Priority Applications (no., kind, date): US 200272597 A 20020205

#### Patent Details

Number	Kind	Lan	Pg	Dwg	Filing	Notes
US 20030149670	A1	EN	20	10		

**Software** license information delivery method, involves  
validating signed license using publisher public key and using terms to  
control use of **software** product

Original Titles:

Method and system for delivery of secure **software**  
license information

Inventor: **CRONCE P A**

Alerting Abstract ...response to a key authority receiving a signed  
license request. The license is signed with a publisher private key and is  
transmitted to an authorizing **program**. The signed  
license is va...

...lidated using the publisher public key and the license terms are used to  
control use of **software** product. USE - Used for  
delivering license information to control licensed  
**software** usage...

...DESCRIPTION OF DRAWINGS - The drawing shows a flow diagram for the  
process of delivering secure license information to a  
**software program**.

Title Terms/Index Terms/Additional Words: **SOFTWARE**;

Original Publication Data by Authority

Argentina

Assignee name & address:

Inventor name & address:

**Cronce, Paul A...**

Examiner:

Original Abstracts:

A system and method for delivery of secure **software** license information to **authorize** the use of a **software program** is disclosed.

**The method** and system comprises a computer system for executing the **software program** and the **authorizing program**, and a license **server**, connected to the computer system over a network. The method and system include associating a publisher certificate and a signed product key pair with the **program** to be authorized, **generating** a license request containing user and product information and signed by the private key from the product key pair, transmitting the license request to a...

...the license request and license terms, signing the license with the publisher private key associated with the publisher certificate, transmitting the license to the authorization **program**, validating the license **using** the publisher certificate, and using the license terms to control the use of the **software program**.

Claims:

What is claimed is: **1.** A method for the delivery of secure **software** license information to authorize use of a **software product**, the method comprising the steps of: (a) **associating** with a **software** publisher a private and **public key pair**, wherein the **software publisher** provides the **software** product and **includes a software program and an authorization program within the software product**; (b) **associating a product private and public key with the software product**, and including the product private key with the authorization **program**; (c) **upon invocation of the software product on a computer**, (i) generating **by the authorization program** a license request containing **user** and product information, (ii) digitally signing the license request with the **product** private key, and (iii) transferring the signed license request to a key authority, (d) in response to the key authority receiving the signed license request...

...from the license request and license terms, (ii) signing the license with the publisher private key, and (iii) transmitting the signed license

to the authorizing **program**; and (e) validating the signed license using the publisher public key, and using the license terms to control the use of the **software** product.

### III. Patent Files from Dialog

#### A. All Databases

File 324:GERMAN PATENTS FULLTEXT 1967-200945  
(c) 2009 UNIVENTIO/THOMSON  
File 348:EUROPEAN PATENTS 1978-200945  
(c) 2009 European Patent Office  
File 349:PCT FULLTEXT 1979-2009/UB=20091105|UT=20091029  
(c) 2009 WIPO/Thomson  
File 344:Chinese Patents Abs Jan 1985-2006/Jan  
(c) 2006 European Patent Office  
File 347:JAPIO Dec 1976-2009/Jul(Updated 091030)  
(c) 2009 JPO & JAPIO  
File 350:Derwent WPIX 1963-2009/UD=200972  
(c) 2009 Thomson Reuters  
File 371:French Patents 1961-2002/BOPI 200209  
(c) 2002 INPI. All rts. reserv.

**? ds**

Set	Items	Description
S1	7086030	SOFTWARE OR APP OR APPS OR APPLICATION? ? OR PROGRAM OR PROGRAMS OR PROGRAMME? ?
S2	12705	S1(5N)(AUTHORIZ? OR AUTHORIS?)
S3	1835	LICENSE? ?(5N)REQUEST? ?
S4	56	S3(5N)(CREATE OR CREATES OR CREATING)
S5	1906	(2ND OR SECOND)(3N)(PUBLIC()KEY? ?)
S6	588	S5(5N)ENCRYPT?
S7	128	(1ST FIRST OR PRIMARY)(5N)(PUBLIC()KEY? ?)
S8	16	S7(5N)DECRYPT?
S9	9094	MULTIPLE(3N)KEY? ?
S10	1125	PUBLIC()KEY()PAIR? ?
S11	3517	(TRANSMIT? OR TRANSMISS? OR SEND OR SENDS OR SENDING OR FORWARD???) (5N)(AUTHORITY OR AUTHORITIES)
S12	20	AU=(CRONCE, P? OR CRONCE P? OR PAUL(2N)CRONCE)
S13	13	S2 AND S4
S14	1	S13 AND (S6 OR S8)
S15	3	S13 AND (S9 OR S10)
S16	3	S15 NOT S14
S17	0	S16 AND S11
S18	0	S12(S)S2
S19	19	S12 AND S1
S20	3	S19 AND (S9 OR S10)

## Your case

14/3,K/1 (Item 1 from file: 350)  
DIALOG(R)File 350: Derwent WPIX  
(c) 2009 Thomson Reuters. All rights reserved.

0013615975 - Drawing available  
WPI ACC NO: 2003-711321/200367  
XRPX Acc No: N2003-568873  
License-managed toolset delivery method involves using same  
**authorization** process by **software**  
toolset and **software** product to obtain respective  
licenser  
Patent Assignee: CRONCE P A (CRON-I)  
Inventor: CRONCE P A  
Patent Family (1 patents, 1 countries)  
Patent Application  
Number Kind Date Number Kind Date Update  
US 20030156719 A1 20030821 US 200280639 A 20020221 200367 B

Priority Applications (no., kind, date): US 200280639 A 20020221

Patent Details  
Number Kind Lan Pg Dwg Filing Notes  
US 20030156719 A1 EN 25 13

License-managed toolset delivery method involves using same  
**authorization** process by **software**  
toolset and **software** product to obtain respective  
licenser

Alerting Abstract ...NOVELTY - When the **authorization**  
process is invoked in the **software** toolset/software  
product, the toolset publisher/software product publisher is the publisher  
in the process, and the toolset/software product is the software program in  
the process. A software toolset and a **software** product  
use the same **authorization** process to obtain respective  
licenses.

### Original Publication Data by Authority

#### Argentina

Assignee name & address:

Original Abstracts:

A method for delivery of a licensed toolset to a software publisher for  
creating license-managed software products is disclosed.

<B>The method comprises providing an

**authorization** process, and implementing the  
authorization process for both a toolset publisher and related toolset and  
a software publisher and related **software** product,  
whereby the **same authorization**  
process is used to obtain respective licenses. The

authorization process includes creating a first public and private key pair for the software publisher, creating a second public and private key pair for the **software** product, creating an **authorization program** for the **software program**, with embedded **copies of** the first and second public keys, and combining the **software program** and the **authorization program**, such that **when the authorization program** is invoked, the **authorization program** obtains a **license for** controlling the use of the software program. The license is obtained by **creating a license request, encrypting the license request** using the **second private** key, transmitting the **license request** to a **key authority**, receiving a **license** from the key authority with license terms, decrypting the license, and using the license terms to control the use of the software program.

Claims:

...is: **1** A method for deliver of a license-managed toolset for creating a license-managed software product, the method comprising the step of: (a) **providing an authorization process**, the **authorization** process including the steps of: (i) creating a first public **and** private key pair for a **software** publisher, (ii) creating a second public and private key pair for a **software program**, (iii) creating an **authorization program** for the **software program**, and embedding a copy of **the** first and second public keys **in the** authorization **program**, (iv) **combining the authorization program** with a **software program**, such that when the **software program is invoked** on a computer, the **authorization program obtains** a license

16/3,K/1 (Item 1 from file: 349)  
DIALOG(R)File 349: PCT FULLTEXT  
(c) 2009 WIPO/Thomson. All rights reserved.

01719677 \*\*Image available\*\*  
WAGER GAME LICENSE MANAGEMENT IN A GAME TABLE  
GESTION DES LICENCES DE JEU DE PARI DANS UNE TABLE DE JEU  
Patent Applicant/Assignee:



IGT, 9295 Prototype Drive, Reno, Nevada 89521, US, US (Residence), US  
(Nationality), (For all designated states except: US)  
Patent Applicant/Inventor:  
NGUYEN Binh T, 13210 W. Saddlebow Drive, Reno, Nevada 89511, US, US  
(Residence), US (Nationality), (Designated only for: US)  
Legal Representative:  
WOLF Dean E et al (agent), Weaver Austin Villeneuve & Sampson LLP,  
P.O. Box 70250, Oakland, California 94612-0250, US  
Patent and Priority Information (Country, Number, Date):  
Patent: WO 2008116003 A1 20080925 (WO 08116003)  
Application: WO 2008US57525 20080319 (PCT/WO US2008057525)  
Priority Application: US 2007726596 20070321  
Designated States:  
(All protection types applied unless otherwise stated - for applications  
2004+)  
AE AG AL AM AO AT AU AZ BA BB BG BH BR BW BY BZ CA CH CN CO CR CU CZ DE  
DK DM DO DZ EC EE EG ES FI GB GD GE GH GM GT HN HR HU ID IL IN IS JP KE  
KG KM KN KP KR KZ LA LC LK LR LS LT LU LY MA MD ME MG MK MN MW MX MY MZ  
NA NG NI NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SK SL SM SV SY TJ TM  
TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW  
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LT LU LV MC  
MT NL NO PL PT RO SE SI SK TR  
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
(AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW  
(EA) AM AZ BY KG KZ MD RU TJ TM  
Publication Language: English  
Filing Language: English  
Fulltext Word Count: 59221

Fulltext Availability:  
Detailed Description

Detailed Description  
... network that uses a secure virtual network.

FIGURE 9 is a block diagram depicting software transactions in a gaming  
software distribution network controlled by a **software  
authorization** agent.

FIGURE 10 is an interaction diagram between a gaming software  
distributor, gaming **software** provider and a  
**software authorization** agent  
depicting an initialization of a gaming software transaction.  
FIGURE 11 is an interaction diagram between a gaming software  
distributor, a gaming **software** provider and a  
**software authorization** agent  
depicting a gaming **software** transaction.

FIGURE 12 is an interaction diagram between a gaming software  
distributor, a gaming machine and a **software  
authorization** agent depicting a gaming  
**software** transaction.

FIGURE 13 is flow chart depicting a method in a **software authorization** agent initializing a gaming **software** transaction.

FIGURE 14 is flow chart depicting a method in a **software authorization** agent of **authorizing** a gaming **software** transaction.

FIGURE 15 is a block diagram of an interface used to provide information about gaming **software** transactions generated by a **software authorization** agent.

FIGURE 16 is a block diagram of a gaming system of the present invention.

FIGURES 17A-D are block diagrams showing interactions between different ...be the only viable way to provide cost effective gaming services via a network. The virtual network is enabled by an encryption scheme which utilizes **multiple key** encryption and symmetric encryption keys to provide secure communication of sensitive gaming data. For each session, the symmetric encryption keys may be randomly generated or...requested may be generated. In 745, the billing request message may be sent to the gaming machine owner identified in the gaming license request message.

## **SOFTWARE DISTRIBUTION WITH DOWNLOAD AUTHORIZATION**

### **USING A VPN**

FIGURE 8 is a block diagram of gaming software distribution network that uses a secure virtual network. In the present invention, gaming software may be transferred between various gaming devices, in a gaming **software** distribution network 90, after receiving **authorization** from a gaming **software authorization** agent 50.

The gaming **software authorization** agent 50 may be a conventional data server including but not limited to a database 202, a router 206, a network interface 208, a CPU...

...CPU 204 executes software to provide the functions of the authorization agent 50 as will be described below in more detail. In general, the gaming **software authorization** agent 50 approves all gaming **software** transactions between two gaming devices in the gaming software distribution network and stores a record of the gaming software transactions. Database 202 may be used...

...so that gaming machine operators may more easily reconfigure gaming machines with different gaming software to respond to shifting customer tastes and demands. The gaming **software authorization** agent 50 meets this need by allowing gaming software to be electronically transferred between gaming devices,

such as game servers and gaming machines, in a manner that may be easily monitored and regulated. For instance, the **software authorization** agent 50 may be maintained or supervised by a gaming regulatory agency. However, the **software authorization** agent 50 may also be maintained by a gaming entity that controls many gaming properties to track software distributions on various gaming machines. In addition, besides monitoring electronic transfers of gaming **software**, the **software authorization** agent 50 may also be used to store a record of any change of gaming software on a gaming machine such as changes resulting from...casino accounting office 142 may obtain information from gaming devices connected to the RF network via the Internet 304.

In the present invention, records of **authorizations** for the transfer of gaming **software** between gaming devices may be stored in the database 202. Thus, given an initial distribution of gaming software in the gaming software distribution network 90 for each gaming device, the gaming **software authorization** records may be used to track the gaming software distribution for gaming devices in the gaming distribution network as a function time. This tracking capability...

...is described with respect to FIG. 15.

FIGURE 9 is a block diagram depicting software transactions in a gaming software distribution network controlled by a **software authorization** agent. Gaming **software** transactions between a **software authorization** agent 50, a gaming **software** distributor 53, a gaming software content provider 51 and two gaming machines, 54 and 55 in a gaming software distribution network are described. In FIG...  
...purposes only and the present invention is not limited to the gaming devices shown in the Figure.

As described with respect to FIG. 8, the **software authorization** agent 50 is used to **authorize** gaming **software** transfer between two gaming devices. For instance, in 214, the gaming software distributor 53, which may be a game server maintained by a casino, may contact the **software authorization** agent 50 to request a transfer of gaming software from the gaming software provider 51 to the gaming distributor 53.

The gaming distributor may also contact the **software authorization** agent to request a transfer of gaming software from the gaming software provider 51 to another gaming device such as gaming machine. The **software authorization** agent 50 may approve or deny the request depending on the gaming software transaction information contained in the request. For instance, if a gaming device, such as the gaming software distributor 53, cannot be identified and authenticated by the

**software authorization** agent 50, then the **software authorization** agent 50 will deny the request for the transfer of gaming software. As another example, if the gaming device, has requested a software title that is unknown to the **software authorization** agent 50, then the **software authorization** agent will deny the request for the transfer of gaming software.

Some details of this gaming software transaction are described with respect to FIG.

11, 13 and 14.

After receiving **authorization** from the **software** agent, the gaming software distributor 53 may contact the gaming software content provider 51 and receive an electronically download of gaming software from the content...

...occur directly between two gaming devices as shown in 210. In another embodiment of the present invention, gaming software transfers may be routed through the **software authorization** agent 50. For instance, to transfer gaming software to the gaming software distributor 53, the gaming software content provider 51 sends the gaming **software** to the **software authorization** agent 50 which then forwards the software to the gaming **software** distributor. When the **software authorization** agent 50 receives the gaming **software** it may perform one or more checks on the gaming software to insure it has been approved for use or just simply forward to the destination gaming device without additional checks. All or a portion of the gaming software transfers may be routed through the **software authorization** agent 50.

In 212, prior to downloading gaming software to the gaming distributor or any other gaming device, the gaming software content provider 51, which may be a game server maintained by a company that develops gaming software or owns the rights to gaming software, may validate the gaming **software** transaction with the **software authorization** agent 50.

The gaming **software** content provider 51 may send gaming software transaction information received in a request for a transfer of gaming software received from a gaming device, such as the gaming software distributor 53, to the gaming **software authorization** agent 50. The **software authorization** agent 50 may use the gaming software transaction information to approve or reject the transfer of the gaming software. The details of this gaming software...

...After sending the gaming software to the gaming software distributor 53, the gaming software content provider 51 may report details of this

transaction to the **software**

**authorization** agent 50 in 212. For instance, the gaming software provider may generate a gaming software transaction receipt that includes a unique digital signature for the...

...after receiving the gaming software from the gaming software content provider 51, the gaming software distributor 53 may report details of this transaction to the **software**

**authorization** agent 50 in 214. For instance, the gaming software distributor 53 may generate a gaming software transaction receipt that includes a unique digital signature for the gaming **software** that was received. The

**software authorization** agent 50 may compare receipts from the sender and the receiver of the gaming software to insure the correct gaming software has been transferred between...

...and calculate a digital signature. The digital signature may be sent to the gaming distributor 53 through the local area network and forwarded to the **software authorization** agent 50 to complete the transaction.

In another embodiment, after a request from a gaming software distributor 53, in 220, a gaming software content provider...

...may unpack the software, which may have been compressed, and send acknowledgements of the transfer directly to the gaming software content provider 51, the gaming **software** distributor and the **software authorization** agent.

In yet other embodiments, a game server, such as the gaming software distributor 53, may be used to reconfigure the gaming software on a...

...gaming software to the gaming machine.

The transfer of gaming software from the game server to the gaming machine may require an approval from the **software authorization** agent 50. Further, even if the an approval is not required, gaming software transaction information may be sent to the **software authorization** agent so that the gaming **software** residing on any gaming machine at a particular time may be known. Details of a gaming software transaction between a gaming machine 54, a game server 53 and **software authorization** agent 50 are described with respect to FIG. 12.

The present invention is not limited to only electronic transfers of gaming **software** between gaming devices. The **authorization** methods may be also be applied to the manual installation of gaming software. For example, prior to manually installing gaming software on a gaming machine, an installation technician may request approval of the gaming **software** transaction from a **software authorization** agent 50 using a hand-held wireless device. The gaming software, which may be stored on a memory device such

as CD-ROM may been...

...installed on a gaming machine and information regarding the gaming machine may be entered into the hand-held wireless device and then sent to the **software authorization** agent. The **software authorization** agent may use this information to approve the gaming software transaction and to track the gaming software installed on gaming machines.

In another example, a technician may use the **software authorization** agent to manually check gaming **software** installed on a gaming machine. The technician may read gaming software information from a particular gaming machine and then using a hand-held wireless device relay the gaming machine software information and gaming machine information to the **software authorization** agent 50.

The **software authorization** agent 50 may compare the information received from the hand-held wireless device with gaming software information stored in a gaming software registration database to determine whether the gaming machine has the correct **software** installed on it. The **software authorization** agent may send a message to the hand-held wireless gaming device indicating whether or not the correct gaming software is installed on a gaming...

...particular gaming machine and what gaming software upgrades are available. When performing gaming machine maintenance, a gaming machine operator may request this information from the **software authorization** agent 50 to aid in the maintenance process.

Gaming software may be transferred between two gaming devices using a wireless communication connection. For example, within...

...also be performed using cellular communication technologies with cellular communication standards used in the cellular communication industry.

As described with respect to FIG. 8, the **software authorization** agent 50 may include a gaming software transaction database. The gaming software transaction database may be used to track the distribution of gaming software on...

...instance, in 216, a gaming software content provider may request a report regarding downloads of their gaming software from game servers to gaming machines. The **software authorization** agent 50 may receive the request, query the gaming software transaction database and generate a report for the gaming software content provider. This type of...

...and market trending involving the transfer and the use of gaming software.

FIGURE 10 is an interaction diagram between a gaming software distributor

53, gaming **software** provider 51 and a **software authorization** agent 50 depicting an initialization of a gaming software transaction for one embodiment of the present invention. The example is provided for illustrative purposes only...

...request message matches gaming software identification information contained in a database used by the agent 50.

In 922, when the download request is approved, the **software authorization** agent creates a gaming **software** transaction record and stores the record to a gaming software transaction database. The gaming software transaction record may include but is not limited to gaming...

...be loaded to a game server. Each time the game server downloads the gaming software to a gaming machine, it may request permission from the **software authorization** agent 50 using the transaction number in the original record. The **software authorization** agent may **authorize** the game server to download the software to a gaming machine as long as the number of permitted downloads has not been exceeded.

In 922 and 923, the **software authorization** agent may send an approval message with all or a portion of the gaming software transaction information stored in the gaming software transaction record to...

...agent may send a notification message to the gaming software provider 51. The message may notify the gaming software content provider 51 that a gaming **software** transaction has been **authorized** that allows some of the provider's 51 to be transferred to another gaming device.

FIGURE 11 is an interaction diagram between a gaming software distributor, a gaming **software** provider and a **software authorization** agent depicting a gaming **software** transaction. In 850, the distributor may generate a software download request message. The download request message may include gaming software transaction information generated in the...

...51 sends the message to the distributor 53. In 857, the distributor receives the message and decrypts it with the K(S) received from the **software authorization** agent 50 in the **authorization** message.

In 859, the **software** provider 51 may optionally generate a download request message to validate the gaming software transaction requested by the distributor. The download request message may include...by the destination gaming device and the session encryption key, K(S). In one embodiment, the download package and reply may be

routed through the **software**

**authorization** agent 50 which may perform checks on the gaming software before forwarding it to the destination gaming machine. Thus, the download package and receipt may be encrypted with the public encryption key used by the **software authorization** agent 50.

The download package and the download receipt may go to separate gaming devices. In one embodiment, the download package may be forwarded by...

...was described with respect to FIG. 9.

FIGURE 12 is an interaction diagram between a gaming software distributor 53, a gaming machine 54 and a **software authorization** agent 50 depicting a gaming **software** transaction. In this example, the distributor 53 may be a game server operated by a casino and the gaming machine 54 may be one of...

...purposes.

Optionally, in 978, the gaming machine 54 may generate a receipt or some other type of acknowledgement message that it has received the gaming **software** and send it to the **authorization** agent 50. In 968, the game server of the distributor 53 may also send a receipt or acknowledgement message to the agent 50. In 970...

...the acknowledgement messages to determine if the gaming software transaction has been correctly carried out.

FIGURE 13 is flow chart depicting a method in a **software authorization** agent initializing a gaming **software** transaction. In 1000, the agent receives a gaming software transaction session request message from a gaming software distributor or another gaming entity desiring a transfer...

...1002, the authorization may check to determine if the requestor identified in the message is in a local or database of gaming entities that are **authorized** to request transfers of gaming **software**. When the requestor is not in the database, in 1004, the agent may terminate the transaction and generate a record of the attempted transaction and...

...for a gaming software title unknown to the agent.

In 1016, when information in the download request has been validated, the agent may generate an **authorization** record for the gaming **software** transaction as previously described with respect to FIG. 9. The agent may also generate an acknowledgement message and send it to the requestor. In 1018...



...has been received, the agent may store a record of the authorized transaction to a database. In one embodiment, the agent may also notify a **software** content provider that has been **authorized** to transfer the gaming **software** of the pending gaming **software** transaction that has been **authorized**.

FIGURE 14 is flow chart depicting a method in a **software authorization** agent of **authorizing** a gaming **software** transaction. In 1100, the agent receives a gaming software transfer request form a gaming device. The transfer request may describe a gaming **software** transaction previously generated and **authorized** by the agent. The gaming device may be a game server, a gaming machine or any other gaming device that is allowed to receive gaming...

...for an electronic fund transfer or other payment method.

FIGURE 15 is a block diagram of an interface 1200 used to provide information about gaming **software** transactions generated by a **software authorization** agent. The interface menu 1210 may allow a user to view information in different formats, perform queries of a gaming software transaction and perform other...  
...being used. To ensure fairness, gaming regulators need to be able show that game software residing on a gaming machine is authentic and approved game **software** from an **authorized** content provider. In light of the above, methods that automate the game changeover process on gaming machine while providing an accurate record of the software...or erase itself when an attempt at tampering has been detected.

The gaming system 1500 of the present invention may include devices 1506 that provide **authorization** to download **software** from a first device to a second device and devices 1507 that provide activation codes or information that allow downloaded software to be activated. The devices, 1506 and 1507, may be remote servers and may also be trusted information sources. Details of a **software authorization** agent 50 used to **authorize** the downloading of game **software** are described with respect to FIGs. 9-11. One example of a method of providing product activation codes that may be used with the present...such as a mobile gaming device, the software certificate 1564 may determine what type of device it is located on. If it is not on **authorized** device, the **software** certificate 1564 may prevent the software application 1562 from executing. The download history and the usage history may provide records of the origins of the...communication interface between the hand held device and a particular gaming device.

The gaming system 1300 comprises a central game software host 1572, a local **software** download **authorization** agent 1506 for **authorizing software** downloads, a license server 1552, two software caches, 1304 and 1306, a game play host 1503 connected to two game play interfaces, 1511, four gaming...

...system 1300 may be combined or overlapped. For example, a single server may provide the functions of the central game software host 1572, the local **software** download **authorization** agent 1506 and the license server 1552. In another example, the gaming machine, in some instances, may act as a game software host, a software...

...for more details).

The gaming machine 2 may include software 1430 for acting as a download authorization host as described with respect to FIGs. 9 ( **software authorization** agent 50) or FIGs. 16 and 18 (**software** download **authorization** agent 1506). As a download authorization host, the gaming machine may receive requests from other gaming devices requesting permission to download software to another the...has multiple components, each component may have its own certificate. In one embodiment, a licensing agent on the gaming machine reads the certificate(s) and **creates** a **license request** for a token from the local license server. If it is not built-in, a software agent may send a request for a token, receive...To ensure fairness, gaming regulators need to be able show that game software residing on, for example, a game table is authentic and approved game **software** from an **authorized** content provider. For certain entities, such as game content providers, to be properly compensated they may also need to know the locations their software is...

16/3,K/2 (Item 2 from file: 349)  
DIALOG(R)File 349: PCT FULLTEXT  
(c) 2009 WIPO/Thomson. All rights reserved.

01701782 \*\*Image available\*\*  
WAGER GAME LICENSE MANAGEMENT IN A PEER GAMING NETWORK  
GESTION D'UNE LICENCE POUR UN JEU DE PARI DANS UN RESEAU DE JEU DE PAIR A  
PAIR  
Patent Applicant/Assignee:  
IGT, 9295 Prototype Drive, Reno, NE 89521-8986, US, US (Residence), US  
(Nationality), (For all designated states except: US)

Patent Applicant/Inventor:

NGUYEN Binh, 13210 West Saddlebow Drive, Reno, NV 89511, US, US  
(Residence), US (Nationality), (Designated only for: US)

Legal Representative:

NAG Rupak et al (agent), Beyer Weaver LLP, P.O. Box 70250, Oakland, CA  
94612-0250, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 200897790 A2-A3 20080814 (WO 0897790)  
Application: WO 2008US52561 20080131 (PCT/WO US2008052561)  
Priority Application: US 2007701921 20070202

Designated States:

(All protection types applied unless otherwise stated - for applications

2004+)

AE AG AL AM AO AT AU AZ BA BB BG BH BR BW BY BZ CA CH CN CO CR CU CZ DE  
DK DM DO DZ EC EE EG ES FI GB GD GE GH GM GT HN HR HU ID IL IN IS JP KE  
KG KM KN KP KR KZ LA LC LK LR LS LT LU LY MA MD ME MG MK MN MW MX MY MZ  
NA NG NI NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SK SL SM SV SY TJ TM  
TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LT LU LV MC  
MT NL NO PL PT RO SE SI SK TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 50914

Fulltext Availability:

Detailed Description

Detailed Description

... network that uses a secure virtual network.

FIGURE 9 is a block diagram depicting software transactions in a gaming software distribution network controlled by a **software authorization** agent.

FIGURE 10 is an interaction diagram between a gaming software distributor, gaming **software** provider and a **software authorization** agent depicting an initialization of a gaming software transaction.

FIGURE 11 is an interaction diagram between a gaming software distributor, a gaming **software** provider and a **software authorization** agent depicting a gaming **software** transaction.

FIGURE 12 is an interaction diagram between a gaming software distributor, a gaming machine and a **software authorization** agent depicting a gaming **software** transaction.

FIGURE 13 is flow chart depicting a method in a

**software authorization** agent  
initializing a gaming **software** transaction.

FIGURE 14 is flow chart depicting a method in a  
**software authorization** agent of  
**authorizing** a gaming **software**  
transaction.

FIGURE 15 is a block diagram of an interface used to provide information  
about gaming **software** transactions generated by a  
**software authorization** agent.

FIGURE 16 is a block diagram of a gaming system of the present invention.

FIGURES 17A-D are block diagrams showing interactions between different  
...be the only viable way to provide cost effective gaming services via a  
network. The virtual network is enabled by an encryption scheme which  
utilizes **multiple key** encryption  
and symmetric encryption keys to provide secure communication of  
sensitive gaming data. For each session, the symmetric encryption keys  
may be randomly generated or...license requested may generated. In 745,  
the billing request message may be sent to the gaming machine owner  
identified in the gaming license request message.

## **SOFTWARE DISTRIBUTION WITH DOWNLOAD AUTHORIZATION**

### **USING A VPN**

FIGURE 8 is a block diagram of gaming software distribution network that  
uses a secure virtual network. In the present invention, gaming software  
may be transferred between various gaming devices, in a gaming  
**software** distribution network 90, after receiving  
**authorization** from a gaming  
**software authorization** agent 50.

The gaming **software authorization**  
agent 50 may be a conventional data server including but not limited to a  
database 202, a router 206, a network interface 208, a CPU...

...CPU 204 executes software to provide the functions of the authorization  
agent 50 as will be described below in more detail. In general, the  
gaming **software authorization** agent  
50 approves all gaming **software** transactions between  
two gaming devices in the gaming software distribution network and stores  
a record of the gaming software transactions.

16/3,K/3 (Item 3 from file: 349)  
DIALOG(R)File 349: PCT FULLTEXT  
(c) 2009 WIPO/Thomson. All rights reserved.

01537571

GENIUS ADAPTIVE DESIGN  
MODELE D'ADAPTATION AU GENIE

Patent Applicant/Inventor:

CABINALLA Linda, 1145 Delaware St, Fairfield, CA 94533, US, US  
(Residence), US (Nationality), (Designated for all)

Patent and Priority Information (Country, Number, Date):

Patent: WO 200781519 A2 20070719 (WO 0781519)

Application: WO 2006US48704 20061219 (PCT/WO US2006048704)

Priority Application: US 2005755291 20051230; US 2006756607 20060105; US  
2006778313 20060301; US 2006783018 20060315; US 2006786906 20060328; US  
2006852794 20061018

Designated States:

(All protection types applied unless otherwise stated - for applications  
2004+)

AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM  
DZ EC EE EG ES FI GB GD GE GH GM GT HN HR HU ID IL IN IS JP KE KG KM KN  
KP KR KZ LA LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MY MZ NA NG NI  
NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SK SL SM SV SY TJ TM TN TR TT  
TZ UA UG US UZ VC VN ZA ZM ZW

(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LT LU LV MC NL  
PL PT RO SE SI SK TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 520275

Fulltext Availability:

Detailed Description

Detailed Description

... many ways, eg: clients speak with each other. Clients 'analyze / 'ba  
the services/invention features. INTERACTIVE = the more the better. Live  
versus automated phone attendants. **LICENSEE** /  
LICENSOR = Client and Landlord behavior ['ba]. How they  
maximize/minimize, monetary income/expenditures/royalty fees. 'W5  
something is licensed/used. 'W5 licensee/licensors don't...

...by colons. E I, Electronic 'Fq, Frequency —the  
electrical type. 'IMI, Feature, Part, and maybe Function KN, N,  
Invention. Often followed by colons. 'KW, **Key** words.  
Often followed by colons. 'Nr, Notifier, Alerts 'Misc, Miscellaneous  
Obvious, Exists OTD, Other technical details, For Techies, Read later.  
Often followed by colons. SW...data can also be entered into computer  
without tedious computer mouse)-> CPU (software analyzes entered data)  
= Software analyzes database of each entered part with its  
**multiple** uses also shown in a pattern of branching

trees (this database can be the invention tree) = Software converts originally inputted diagram into hundreds of types...

...fraction of the applicable US Patent Classification numbers. .

Alternatives & Keywords for ACCESS feature: admission, admittance, approach, avenue, connection, contact, course, door, entrance, entree, entry, introduction, **key**, open door (slang), passage, path, road, route, way . US Patent Classification code for Access: 726.4 Information Security / Authorization . Alternatives & Keywords for ADAPTING feature: acclimate...

...organize, pool, proportion, pull together, reconcile, reconcile, regulate, shape up, synchronize, systematize, team up Alternatives & Keywords for DESIGNATED feature: allocate, allot, appoint, apportion, appropriate, assign, **authorize**, button down (slang), characterize, charge, choose, commission, connote, constitute, define, delegate, denote, depute, deputize, describe, dictate, earmark (slang), elect, evidence, favor, finger (slang), indicate, individualize...be "clap" (make bursts of sound, eg: three beeps = the number 3 of tel #) Voice Activated Key Pad: by making clear monotones in single or **multiple** bursts their corresponding **key** act as if pressed on normal key pad. Sounds can be of certain letters to ease memory for people in each language group. For people...therapeutic. Therapy machine helping people. Also, compensates for user's state of mind and or current personal info, and or condition, based on: what user **keys** in, are how well they scored in the previous physical therapy session. TILT <sup>TM</sup> ='Remote Control Joystick. Otherwise confidential. TR = Transmission: sending / receiving via: air...

...Programming (adapt) on how it tailors systems to the traits of the users and or situations.

U = See User UIP= See Adapt UK <sup>TM</sup> = User **Keys**

In Information. This combines the U (user) with the K. (keyboard) feature. Or just call this feature "K" or "R" (remote control) as a user

...

...be 'tailored to the user / what is perceived as the user's belief for what the [stolen] 'accessed feature possesses. This data can become legally **authorized software** like virus [which leaves a trail] that can hopefully later be deactivated if/when time is right [hacker apprehended along with their accomplices]. This patent...designated" key words (found via saw's search function) of files, or functions (their labels, command codes, instructions, "q").-Accessor is assigned a list of **key** words, these child\*, kid\*, image\*, imaging, create, creating...

## YOUR CASE

20/3,K/1 (Item 1 from file: 349)  
DIALOG(R)File 349: PCT FULLTEXT

(c) 2009 WIPO/Thomson. All rights reserved.

01025666 \*\*Image available\*\*

A SYSTEM AND METHOD FOR PREVENTING UNAUTHORIZED USE OF PROTECTED  
**SOFTWARE** UTILIZING A PORTABLE SECURITY DEVICE

SYSTEME ET PROCEDE METTANT EN OEUVRE UN DISPOSITIF DE SECURITE PORTATIF  
POUR EMPECHER L'UTILISATION NON AUTORISEE D'UN LOGICIEL PROTEGE

Patent Applicant/Assignee:

PACE ANTI-PIRACY INC, 1363 Meridian Avenue, San Jose, CA 95125, US, US  
(Residence), US (Nationality)

Inventor(s):

FONTANA Joseph M, 966 El Rio Drive, San Jose, CA 95125, US,  
**CRONCE Paul A**, 1475 Weaver Drive,  
San Jose, CA 95125, US,

Legal Representative:

SULLIVAN Stephen G (agent), Sawyer Law Group LLP, P.O. Box 51418, Palo  
Alto, CA 94303, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200354662 A2-A3 20030703 (WO 0354662)

Application: WO 2002US40185 20021217 (PCT/WO US02040185)

Priority Application: US 200128581 20011220

Designated States:

(Protection type is "patent" unless otherwise stated - for applications  
prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ  
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR  
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG  
SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW  
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SI SK  
TR  
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW  
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 9183

A SYSTEM AND METHOD FOR PREVENTING UNAUTHORIZED USE OF PROTECTED  
**SOFTWARE** UTILIZING A PORTABLE SECURITY DEVICE

Inventor(s):

... **CRONCE Paul A**

Patent Applicant/Inventor:

Fulltext Availability:

Detailed Description

Claims

English Abstract

A method and system for protecting **software** from  
unauthorized use on a computer system using an external security device  
(130) is disclosed. The method and system include encrypting the  
**software** to be protected using an encryption key. The  
use of the **software** on the computer system is then  
authorized by generating the encryption key within the security device

(130) using information supplied from the software. Once the encryption key generated by the security device (130) is received on the computer system, the encryption key used to decrypt the encrypted **software** for execution on the computer system.

#### Detailed Description

A SYSTEM AND METHOD FOR PREVENTING UNAUTHORIZED USE OF PROTECTED **SOFTWARE** UTILIZING A PORTABLE SECURITY DEVICE

#### FIELD OF THE INVENTION

The present invention relates generally to the prevention of **software** piracy and more particularly to preventing unauthorized use of protected **software** by utilizing a portable personal security device.

#### BACKGROUND OF THE INVENTION

The problem of **software** piracy is well known in the computer industry. This problem results in substantial losses for **software** developers. Many methods have been used to try to prevent unauthorized use of **software** over the years, with limited success. Typically, the effort put out to break protection schemes is proportional to the value of the protected **software**. Thus, if a **software** program has high demand, such as a computer game, or has a high cost per unit, such as a professional tool sold to a small market, it is likely to be attacked by **software** hackers for the purpose of creating an unprotected version of the product. This unprotected version is then made available to others at low cost or recording industry and computer games industry, that some companies are unable to guarantee the profitability of developing new **software**.

Some of the methods of protecting **software** has included an external hardware device, which is plugged into the computer. This device is interrogated by the protected **software** for the purpose of authorizing the use of the **software**.

Unfortunately, it is all too easy to analyze the **software** and provide a **software** bypass around the code which requests the authorization. More complex schemes have been used to obscure the authorization process and protection scheme in an attempt...In the music industry, co-processor cards are used, along with the host processor, to provide complex effects and sound processing via plug-in coprocessor **software** modules. Such co-processor cards can also be used for other purposes. Because the co-processor instruction sets are difficult and very complex, the potential market is small. The result is that the cost of co-processor **software** plug-in modules is high. Unfortunately, the high cost of the modules has resulted in a high percentage of unauthorized copies of the plug-in...on an attached coprocessor. The



present invention addresses such a need.

20/3,K/2 (Item 2 from file: 349)  
DIALOG(R)File 349: PCT FULLTEXT  
(c) 2009 WIPO/Thomson. All rights reserved.

00809296 \*\*Image available\*\*

PORTABLE AUTHORIZATION DEVICE FOR AUTHORIZING USE OF PROTECTED INFORMATION  
AND ASSOCIATED METHOD

PROCEDE ET DISPOSITIF D'AUTORISATION PORTATIF PERMETTANT D'AUTORISER  
L'UTILISATION D'INFORMATIONS PROTEGEES

Patent Applicant/Assignee:

PACE ANTI-PIRACY INC, 1363 Meridian Avenue, San Jose, CA 95125, US, US  
(Residence), US (Nationality), (For all designated states except: US)

Patent Applicant/Inventor:

**CRONCE Paul** Allen, 1475 Weaver  
Drive, San Jose, CA 95125, US, US (Residence), US (Nationality),  
(Designated only for: US)

FONTANA Joseph M, 966 El Rio Drive, San Jose, CA 95125, US, US  
(Residence), US (Nationality), (Designated only for: US)

Legal Representative:

HAN Franklin Y (et al) (agent), Morrison & Foerster LLP, 755 Page  
Mill Road, Palo Alto, CA 94304-1018, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200142888 A1 20010614 (WO 0142888)

Application: WO 2000US12906 20000510 (PCT/WO US0012906)

Priority Application: US 99169506 19991207; US 2000503778 20000214

Parent Application/Grant:

Related by Continuation to: US 2000503778 20000214 (CIP)

Designated States:

(Protection type is "patent" unless otherwise stated - for applications  
prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES  
FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU  
LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA  
UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 15293

Patent Applicant/Inventor:

**CRONCE Paul** Allen...

Legal Representative:

Fulltext Availability:

Detailed Description

Claims

## Detailed Description

... beginning of each regular issue of the PCT Gazette.

### PORTABLE AUTHORIZATION DEVICE FOR AUTHORIZING USE OF PROTECTED INFORMATION AND ASSOCIATED METHOD

#### CROSS-REFERENCE TO RELATED **APPLICATIONS**

This **application** claims priority to provisional **Application** No. 60/169,506, filed December 7, 1999 and to utility **Application** No. 09/50' ),778, filed February 14, 2000.

## 1 0 BACKGROUND OF THE INVENTION

### I . Field of the Invention

This invention relates generally to techniques...

...authorization device (commonly known as a "dongle") for authorizing a host system to use protected information.

1 5

### 2. Description of the Related Art

A **software** "wrapper" is a commonly used technique for selectively authorizing the use of protected information associated with a host system such as a personal computer or a server. The protected information, for example, may comprise a **software program** to be executed, or data to be processed, by the host system. The **software** wrapper permits an end-user to access or execute the protected **program** or data only if a predetermined condition is met. The predetermined condition can be, for example, the running of a trial period that allows the end-user to evaluate the protected **program** or data or the presentation of the proper authorization information by the end-user. The authorization information, for example, may be a password manually entered by the end-user or digitally encoded data. A discussion of **software** wrappers can be found, for example, in The Seybold Report on Internet Publishing, Dec. 1997, no. 4, vol. 2, p. 3.

There are several techniques...

...Dongles are small, readily transportable electronic devices as described, for example, in U.S. Patent No. 4,562,306. Dongles are typically provided by the **software** vendor together with the wrapped **software program** they are intended to authorize.

To enable the **software program** to run on a particular computer, the end-user simply connects the dongle to a communications port of the computer, such as a parallel port or Universal Serial Bus (USB) port. Therefore, the end-user can authorize a number of different computers to run the **program** simply by connecting the dongle to whichever computer that he or she desires to run the **program** on at any given time.

However, a disadvantage presented by dongles is that they typically store

authorization information for only one **software program** or perhaps for a group of **software I O programs** from a single vendor. Consequently, because an end-user typically might use several **software programs** from multiple vendors at any given time, he or she might have to carry around multiple dongles, which could be cumbersome and inconvenient.

Another disadvantage is that the authorization information stored in the dongle is typically set by the **software** vendor during manufacture and generally cannot be subsequently updated. As a result, when a **software** vendor provides an end-user with a **software** upgrade, add-on or plug-in, etc. for a protected **software program**, the vendor often also delivers a new dongle to authorize the associated **software**. This is not very costeffective for **software** vendors because the cost of the dongle itself can be significant in relation to the value of the associated **software**.

In a second technique known in the art, the authorization information is stored on a magnetic floppy disk known as a "key diskette." The key...

20/3,K/3 (Item 1 from file: 350)  
 DIALOG(R)File 350: Derwent WPIX  
 (c) 2009 Thomson Reuters. All rights reserved.

0013615529 - Drawing available  
 WPI ACC NO: 2003-710864/200367  
 XRPX Acc No: N2003-568440  
**Software** license information delivery method, involves  
 validating signed license using publisher public key and using terms to  
 control use of **software** product  
 Patent Assignee: CRONCE P A (CRON-I)  
 Inventor: **CRONCE P A**  
 Patent Family (1 patents, 1 countries)  
 Patent Application  

Number	Kind	Date	Number	Kind	Date	Update
US 20030149670	A1	20030807	US 200272597	A	20020205	200367 B

Priority Applications (no., kind, date): US 200272597 A 20020205

Patent Details  

Number	Kind	Lan	Pg	Dwg	Filing	Notes
US 20030149670	A1	EN	20	10		

**Software** license information delivery method, involves  
 validating signed license using publisher public key and using terms to  
 control use of **software** product  
 Original Titles:  
 Method and system for delivery of secure **software**  
 license information  
 Inventor: **CRONCE P A**

Alerting Abstract ...response to a key authority receiving a signed license request. The license is signed with a publisher private key and is transmitted to an authorizing **program**. The signed license is va...

...lidated using the publisher public key and the license terms are used to control use of **software** product. USE - Used for delivering license information to control licensed **software** usage...

...DESCRIPTION OF DRAWINGS - The drawing shows a flow diagram for the process of delivering secure license information to a **software program**.

Title Terms/Index Terms/Additional Words: **SOFTWARE**;

Original Publication Data by Authority

Argentina

Assignee name & address:

Inventor name & address:

**Cronce, Paul A...**

Examiner:

Original Abstracts:

A system and method for delivery of secure **software** license information to **authorize** the use of a **software program** is disclosed.

**The method** and system comprises a computer system for executing the **software program** and the **authorizing program**, and a license **server**,

connected to the computer system over a network. The method and system include associating a publisher certificate and a signed product key pair with the **program** to be authorized, **generating** a license request containing user and product information and signed by the private key from the product key pair, transmitting the license request to a...

...the license request and license terms, signing the license with the publisher private key associated with the publisher certificate, transmitting the license to the authorization **program**, validating the license **using** the publisher certificate, and using the license terms to control the use of the **software program**.

Claims:

What is claimed is: **1**. A method for the delivery of secure **software** license information to authorize use of a **software product**, the method comprising the steps of: (a) **associating** with a **software** publisher a private and **public key pair**,

wherein the **software publisher** provides the **software** product and includes a **software program** and an authorization **program** within the **software** product; (b) associating a product private and public key with the **software** product, and including the product private key with the authorization **program**; (c) upon invocation of the **software** product on a computer, (i) generating by the authorization **program** a license request containing **user** and product information, (ii) digitally signing the license request with the **product** private key, and (iii) transferring the signed license request to a key authority, (d) in response to the key authority receiving the signed license request...

...from the license request and license terms, (ii) signing the license with the publisher private key, and (iii) transmitting the signed license to the authorizing **program**; and (e) validating the signed license using the publisher public key, and using the license terms to control the use of the **software** product.

## IV. Text Search Results from Dialog

### A. Abstract Databases

17/3,K/1 (Item 1 from file: 15)  
DIALOG(R)File 15: ABI/Inform(R)  
(c) 2009 ProQuest Info&Learning. All rights reserved.

00759575 94-08967

A public key extension to the Common Cryptographic Architecture  
Le, An V; Matyas, Stephen M; Johnson, Donald B; Wilkins, John D  
IBM Systems Journal v32n3 PP: 461-485 1993  
ISSN: 0018-8670 JRNL CODE: ISY  
WORD COUNT: 16326

...TEXT: key-based key distribution, on-line access to a key distribution center is usually needed each time the communicating parties establish an initial keying relationship. **Second**, in **public-key**-based key distribution, the degree of trust placed on the central authority (e.g., a certification center) is generally less than the degree of trust...the public key extension and implemented in the Transaction Security System are now presented.

PKA subsystem management services. The PKA subsystem management services allow an **authorized application** to initialize and manage the public key extension components of the cryptographic subsystem. The services that belong to this category are the profile vector build...of a distributed public key need not be kept secret, but it is required to have integrity. If another user with a different private and **public key pair** can cause his or her public key to be mistaken for a public key of a legitimate user, that user can pretend to be the...

[insert]

## V. Text Search Results from Dialog

### A. Full Text Databases

File 9:Business & Industry(R) Jul/1994-2009/Nov 11  
(c) 2009 Gale/Cengage

File 16:Gale Group PROMT(R) 1990-2009/Oct 19  
(c) 2009 Gale/Cengage

File 20:Dialog Global Reporter 1997-2009/Nov 12  
(c) 2009 Dialog

File 15:ABI/Inform(R) 1971-2009/Nov 11  
(c) 2009 ProQuest Info&Learning

File 148:Gale Group Trade & Industry DB 1976-2009/Nov 12  
(c) 2009 Gale/Cengage

File 160:Gale Group PROMT(R) 1972-1989  
(c) 1999 The Gale Group

File 275:Gale Group Computer DB(TM) 1983-2009/Oct 13  
(c) 2009 Gale/Cengage

File 610:Business Wire 1999-2009/Nov 12  
(c) 2009 Business Wire.

File 613:PR Newswire 1999-2009/Nov 12  
(c) 2009 PR Newswire Association Inc

File 621:Gale Group New Prod.Annou.(R) 1985-2009/Oct 05  
(c) 2009 Gale/Cengage

File 636:Gale Group Newsletter DB(TM) 1987-2009/Oct 19  
(c) 2009 Gale/Cengage

File 624:McGraw-Hill Publications 1985-2009/Nov 12  
(c) 2009 McGraw-Hill Co. Inc

File 634:San Jose Mercury Jun 1985-2009/Oct 28  
(c) 2009 San Jose Mercury News

File 810:Business Wire 1986-1999/Feb 28  
(c) 1999 Business Wire

File 813:PR Newswire 1987-1999/Apr 30  
(c) 1999 PR Newswire Association Inc

File 88:Gale Group Business A.R.T.S. 1976-2009/Nov 12  
(c) 2009 Gale/Cengage

File 647:UBM Computer Fulltext 1988-2009/Nov W2  
(c) 2009 UBM, LLC

File 674:Computer News Fulltext 1989-2006/Sep W1  
(c) 2006 IDG Communications

File 696:DIALOG Telecom. Newsletters 1995-2009/Nov 10  
(c) 2009 Dialog

File 369:New Scientist 1994-2009/Nov W1  
(c) 2009 Reed Business Information Ltd.

File 484:Periodical Abs Plustext 1986-2009/Nov 11  
(c) 2009 ProQuest

File 370:Science 1996-1999/Jul W3  
(c) 1999 AAAS

? ds

Set	Items	Description
S1	40119441	SOFTWARE OR APP OR APPS OR APPLICATION? ? OR PROGRAM OR PROGRAMS OR PROGRAMME? ?
S2	189919	S1(5N)(AUTHORIZ? OR AUTHORIS?)
S3	11525	LICENSE? ?(5N)REQUEST? ?
S4	19	S3(5N)(CREATE OR CREATES OR CREATING)
S5	229	(2ND OR SECOND)(3N)(PUBLIC()KEY? ?)
S6	28	S5(5N)ENCRYPT?
S7	79	(1ST FIRST OR PRIMARY)(5N)(PUBLIC()KEY? ?)
S8	0	S7(5N)DECRYPT?
S9	16963	MULTIPLE(3N)KEY? ?
S10	187	PUBLIC()KEY()PAIR? ?
S11	50368	(TRANSMIT? OR TRANSMISS? OR SEND OR SENDS OR SENDING OR FORWARD???) (5N)(AUTHORITY OR AUTHORITIES)
S12	0	AU=(CRONCE, P? OR CRONCE P? OR PAUL(2N)CRONCE)
S13	0	S2(S)S4
S14	52	S2(S)S3
S15	0	S14(S)(S6 OR S7)
S16	0	S14(S)S5
S17	0	S14(S)(S9 OR S10)
S18	0	S14(S)S11
S19	3	S1(S)S4
S20	2	RD (unique items)

?

20/3,K/1 (Item 1 from file: 16)  
DIALOG(R)File 16: Gale Group PROMT(R)  
(c) 2009 Gale/Cengage. All rights reserved.

04952860 Supplier Number: 47278370 (USE FORMAT 7 FOR FULLTEXT)  
Novell to Drive Separate Development Tracks  
Wirthman, Lisa  
PC Week, p124  
April 7, 1997  
Language: English Record Type: Fulltext  
Document Type: Magazine/Journal; Tabloid; General Trade  
Word Count: 676

... 12 servers on Intel Corp.-based hardware.  
Novell also will improve the value of NDS within IntranetWare this summer by integrating it with an Object **Request** Broker **licensed** from Visigenic **Software** Inc.  
to **create** a new trader service that will enable objects to be registered and managed in the directory.



Also, this summer, Novell will deliver free to IntranetWare...

20/3,K/2 (Item 1 from file: 148)  
DIALOG(R)File 148: Gale Group Trade & Industry DB  
(c) 2009 Gale/Cengage. All rights reserved.

09415946 SUPPLIER NUMBER: 19295899 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
Novell to drive separate development tracks. (IntranetWare, network  
services applications) (Company Business and Marketing)  
Wirthman, Lisa  
PC Week, v14, n14, p124(1)  
April 7, 1997  
ISSN: 0740-1604 LANGUAGE: English RECORD TYPE: Fulltext; Abstract  
WORD COUNT: 723 LINE COUNT: 00063

... 12 servers on Intel Corp.-based hardware.  
Novell also will improve the value of NDS within IntranetWare this  
summer by integrating it with an Object **Request** Broker  
**licensed** from Visigenic **Software** Inc.  
to **create** a new trader service that will enable objects  
to be registered and managed in the directory.  
Also, this summer, Novell will deliver free to IntranetWare...

## **VI. Additional Resources Searched**

EBSCOhost

0 results